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CLOSING DEVICE FOR TOWEL-DISPENSING CONTAINERS

Derived from the Spanish utility model U 9600309 filed  
08.02.1996 in the name of ARBORA HOLDING, S. A.

The present application relates to a closing device for towel-dispensing containers for towels impregnated with a cleaning product, placed inside the container folded in a manner that they can be removed one by one.

Known in the art are closing devices for laminar articles, such as impregnated towels, which comprise two parts or components, one of them in the form of a cover which slots into the mouth of the container and can be detached from same in order to put in the laminar articles. This cover is provided with a wide opening for removal of the laminar articles. The other component is a raising/lowering closure which forms a single body with the cover, destined to close the opening to keep the contents isolated and which can be opened to permit removal of the laminar articles.

These known devices present several limitations. Some embodiments present a towel outlet opening which is too narrow in relation to the dimensions of the towel when folded inside the container. This makes it difficult or impossible for the user's hand to get to the bottom of the container and remove the towels comfortably when very few of same remain inside.

Other known embodiments of this type of closing device have a very wide opening, which has the disadvantage that the removal of one towel causes the next towel to be drawn out with it. Another disadvantage is that, the larger the opening is the greater the possibility there is of the contents of the container coming into contact with the exterior environment and being contaminated.

There is another widespread type of problem in known embodiments of closing devices, deriving from the fact that the cover and the raising/lowering closure form a one-piece moulded body, while they connected to each other by a flexible strip of the material itself which functions as a hinge. This embodiment calls for a complicated mould to make

the two-component unit of the device. Moreover, the articulated piece which forms the flexible strip between the two components is defective in that it prevents stable positioning of the closing part when same is totally open.

The closing device for towel containers of the present application has been designed in order to solve the disadvantages outlined.

The device is essentially characterized in that the opening of the cover has a sufficiently wide outline to permit the hand to be inserted into the container, while the edge which forms the outline is rounded so that it does not scrape the hand of the user when a hand is inserted into the container through the opening.

The cover and the closure are two separate pieces from origin, articulated to each other by means of a hinge with end-stop means to stabilize the open position of the closure.

The opening of the cover is situated in a flat depression provided with a rim around it which forms a channel surrounding the depression, while the closure has a lip around it which fits into the channel when it is closed down onto the cover.

In the channel situated in the depression of the cover there are some teeth onto which the lip of the closing component are secured under pressure in the closed down position.

From the front part of the closing component there projects a tab for grasping, while the cover is provided with an inlet in a position complementary to that of the tab in order to facilitate grasping of the tab described.

For a better understanding of all that is set out in this specification some drawings are attached which show, solely by way of example, a practical embodiment of the closing device for towel-dispensing containers.

In said drawings, Figure 1 is a perspective view of

the device with the closing device open, and Figure 2 is a longitudinal section detail of the cover.

In the drawings, the device comprises two bodies 1 and 2 which are independent at origin and connected to each other by means of hinges 3, once assembled.

The body 1 presents an external lip 4 for fitting of same as a cover onto the mouth of the receptacle 5. A large part of the cover 1 presents a flat depression 6 provided in the middle with a wide opening 7 with a rounded edge 8 running all around it, in order to prevent scraping against the hand of the user when the hand is inserted through the opening in order to reach the last towels 9 left inside the container 5.

The opening 7 is sufficiently wide to allow a hand to pass through it, but is smaller than the folded towels 9, so that during removal of one of the towels folded in zig-zag manner with the towel immediately following it, the second towel is not dragged out and two towels removed at the same time. Moreover, as the width of the opening is kept to the minimum possible for insertion of a hand, the towels 9 inside the container 5 have greater protection against possible contamination.

The depression 6 (Figure 2) is provided with a projecting rim 10 having an outline similar to that of the opening itself, in such a way that it forms a channel 11 into which there fits a lip 12 of the closure or component 2 when same is in the closed down position on the component or cover 1.

The closure or component 2 has a frontal tab 13 to facilitate opening and closing thereof. To correspond with this tab, the cover 1 has an inlet 14 to facilitate grasping of the tab when the closure is in the closed down position. Furthermore, the cover 1 has a pair of claws 15 against which the front part of the lip 12 of the component 2 rests under pressure when in closed down position, in order to

keep the closed position stable.

The hinges 3 which articulate the components 1, 2 with each other facilitate easy swivelling of the component 2. It further has a projection which rests against an end stop 16 in order to stabilize the open position of the component 2.

In summary, the closing device described facilitates one-by-one removal of the towels inside the container. At the same time it prevents contamination of the towels and allows the last towels to be removed easily. Moreover, the closure 2 has means for stabilizing its upright position without hindering removal of the towels. The device is further provided with means to keep the closed down position of the closure stable.

Independent of the object of the invention are the materials used for manufacturing of the components of the device, the shapes and dimensions of same and all the accessory details which might be presented, as long as they do not affect its essential nature.

## WHAT IS CLAIMED IS:

1. Closing device for towel-dispensing containers, comprising two parts, one of them (1) in the form of a cover which slots into the mouth of the container (5) and can be detached from same in order to put in the towels (9), this cover (1) being provided with a wide opening (7) for removal of the towels (9), the other part being a raising/lowering closure (2) incorporated into the cover (1), destined to close the opening (7) to keep the contents isolated and which can be opened to permit removal of the towels (9), characterized in that the opening (7) of the cover (1) has a sufficiently wide outline (8) to permit the hand to be inserted into the container (5), while the edge which forms the outline (8) is rounded.

2. Closing device for towel-dispensing containers, according to claim 1, characterized in that the cover (1) and the closure (2) are two separate pieces from origin, articulated to each other by means of one hinge, at least, with end-stop means (16) to stabilize the open position of the closure (2).

3. Closing device for towel-dispensing containers, according to claims 1 and 2, characterized in that the opening (7) of the cover (1) has an oblong outline with two longer straight sides parallel to each other and two curved shorter sides.

4. Closing device for towel-dispensing containers, according to claims 1 to 3, characterized in that the opening of the cover (1) is situated in a flat depression (6) provided with a rim (10) around it which forms a channel (11) surrounding the depression (6), while the closure has a lip (12) around it which fits into the channel (11) when it is closed down onto the cover (1).

5. Closing device for towel-dispensing containers, according to claims 1 to 4, characterized in that the



channel (11) situated in the depression (6) of the cover (1) has some claws (15) onto which the lip (12) of the closure (2) is secured under pressure in the closed down position.

6. Closing device for towel-dispensing containers, according to claims 1 to 5, characterized in that from the front part of the closure there projects a tab (13) for grasping with the hand, while the cover (1) is provided with an inlet (14) in a position complementary to that of the tab (13) in order to facilitate grasping of the tab (13) described.

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FIG. 1

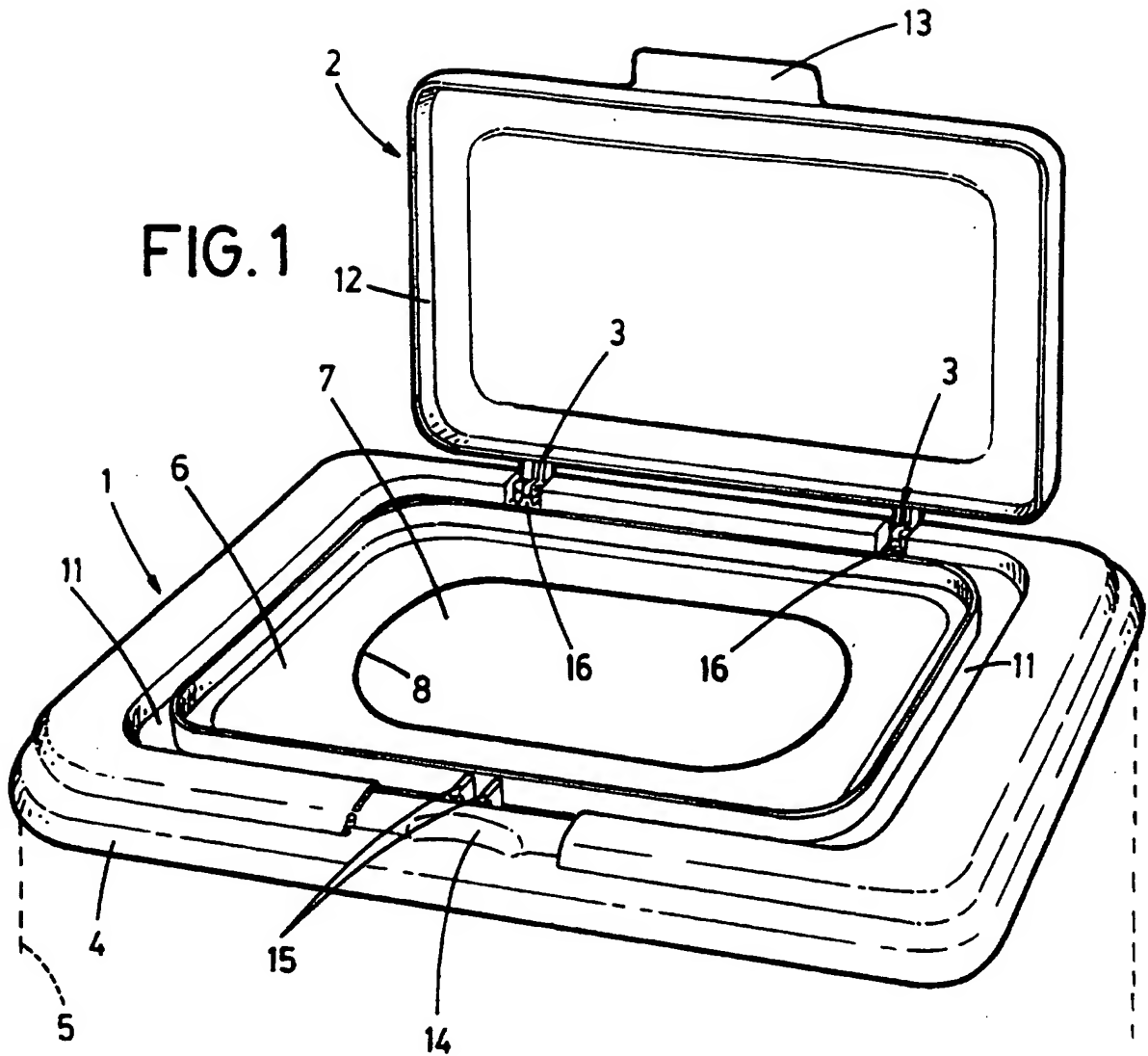
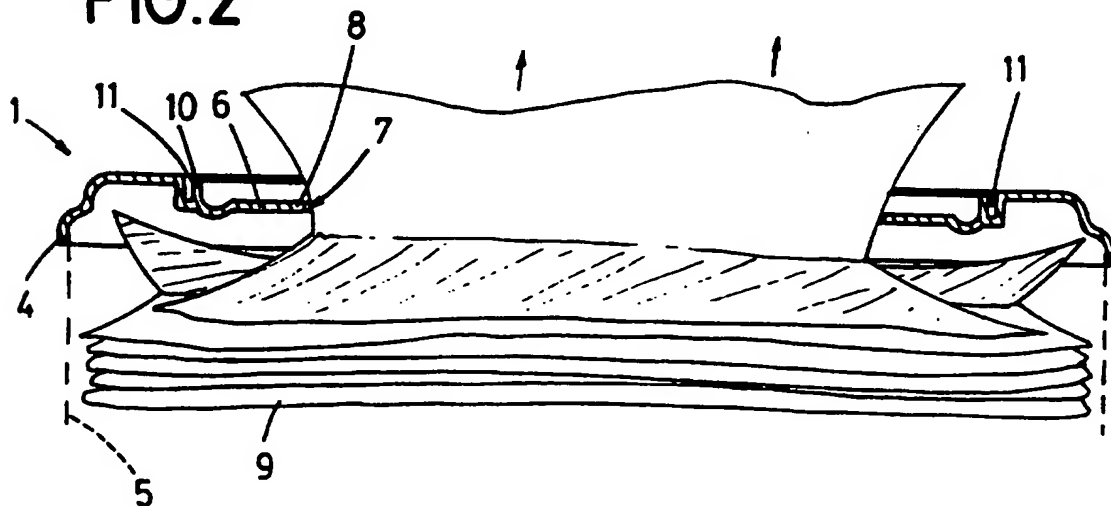


FIG. 2



## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US97/01851

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) : B65D 51/04; B65H 1/00; A47K 10/24

US CL : 220/259, 338; 206/233, 449, 494; 221/61, 306

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 220/259, 337, 338, 339; 206/233, 449, 494, 812; 221/61, 62, 63, 306

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
none

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
none

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,474,199 A (JULIUS et al.) 12 December 1995, see entire document.	1
X	US 5,392,945 A (SYREK) 28 February 1995, see entire document.	1
Y	US 5,048,715 A (WOLFF) 17 September 1991, see entire document.	2
Y	US 5,065,887 A (SCHUH et al.) 19 November 1991, see entire document.	2
Y	US 5,036,997 A (MAY et al.) 06 August 1991, see entire document.	2
A	US 5,145,091 A (MEYERS) 08 September 1992, see entire document.	1-2

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"A" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 01 APRIL 1997	Date of mailing of the international search report 14 APR 1997
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer NATHAN NEWHOUSE Telephone No. (703) 308-1148 <i>Sheila Venev</i> Paralegal Specialist Group 3200

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US97/01851

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,040,680 A (WILSON et al.) 20 August 1991, see entire document.	1-2
A	US 5,368,188 A (TWARDOWSKI) 29 November 1994, see entire document.	1-2
A, P	US 5,542,568 A (JULIUS) 06 August 1996, see entire document.	1-2

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US97/01851

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☒ Claims Nos.: 3-6  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

